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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,522	06/22/2006	Mikko Porma	0837-0193PUS1	3457
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Joe McKinney Muncy PO Box 1364 Fairfax, VA 22038-1364			EXAMINER BRAHAN, THOMAS J	
			ART UNIT 3654	PAPER NUMBER
			MAIL DATE 06/13/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,522

Applicant(s)

PORMA ET AL.

Examiner

Thomas J. Brahan

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

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1. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **For example;**

- a. In claim 1, line 7, the phrase “the stored acceleration sequences” lacks antecedent basis within the claim as lines 5 and 6 of the claim provide a basis for a single stored acceleration sequence, not plural sequences.
- b. In claim 1, line 14, the phrase “the stored sequence parts lacks antecedent basis within the claim.
- c. In claim 2, the limitation “wherein reading and summing stored sequence parts to be performed as delayed at a time interval which is many times longer than said control step” is not understood. The claim has been amended by removing the term “the” from in front of summing stored sequence parts as to indicate that these are not the same sequence parts as previously discussed in the penultimate line of claim 1. This is not understood. Also, the overall sentence structure is awkward. It is unclear as to what is being claimed as delayed, the performance of the next velocity change or the reading and/or the summing calculation procedure.
- d. In claim 3, line 1, it is unclear as to why the term “the” has been deleted from the phrase “the reading and summation interval”. The term “the” indicated that this was the same reading step as recited in the penultimate line of claim 1. Although previously the phrase “the reading and summation interval” lacked antecedent basis within the claims, the amendment fails to indicate that the previous reading and summation step is being further limited and the amendment leaves the claim grammatically incorrect. The amendment to overcome the lack of antecedent basis should have changed the language of claim 3 to correspond with the language of claim 1 by adding the interval aspect to the reading step instead of redundantly adding another reading and summing step.
- e. In claim 3, line 2, it is unclear as to why the term “the” has been deleted from the phrase “the stored sequences”. The term “the” indicated that these were the same sequences as recited in the penultimate line of claim 1. Antecedent basis for this term could have established by correctly and positively including the term in claim 1, instead of redundantly adding it into claim 3.
- f. In a similar manner in claim 4, removing the term “the” from the phrase “the parts of the sequences” fails to indicate that these were the same sequences parts as recited in the penultimate line of claim 1 and leaves the claim grammatically awkward.
- g. Claim 4 discusses “storing parts of the sequences to be performed as delayed in a two-element table, wherein a velocity change is defined in the first element and time, after which the velocity change or changes to be performed as delayed is/are added to the velocity request, is defined in the

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second element. It is unclear as to what "time" is being claimed as delayed. What time is applicant attempting to claim with the limitation "after which the velocity change or changes to be performed as delayed is/are added to the velocity request"? Is it the time until the next velocity change, or the time for the adding or determining of the amount of the next velocity change (as discussed in claim 2).

- h. In claim 5 the phrase "the change of velocity actual value" lacks antecedent basis in the claims.
 - i. Claim 5 discusses "restricting the change of velocity actual value" which is not understood. The claim restricts an actual value which is not understood as it is not fully defined. It restricts it with respect to the previous change. However the term "previous change" lacks antecedent basis within the claim. It sets the change with a "used control step" which is not understood. The step "equals to set maximum acceleration or deceleration at most". Again, removal of the term "the" creates a grammatical error. It is also unclear as to why the term "at most" is included in this phrase.
3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1-4, as best understood, are rejected under 35 U.S.C. § 103 as being unpatentable over Hytönen (U.S. Patent No. 5,529,193). Although the claims are not fully understood, they appear to be a variation of the method disclosed in Hytönen '193. Hytönen '193 includes comparing a new velocity request to a previous velocity request and forming and storing acceleration sequences. Changes in velocity based on the stored accelerations are added for each given time and the sum of the velocity changes is added to the previous velocity request to form a new control command, see the Abstract. Note that drawing figure 3 of Hytönen '193 and drawing figure 3 of this application are substantially identical. Hytönen '193 varies from the claims by not having a control algorithmic formula that performs delayed portions of the control command at a delayed summing step. However formulas, mathematical expressions of scientific principles, have been held by the courts in themselves to not constitute patentable invention, only the structure resulting from their application. See Mackay Radio and Telegraph Co. v. Radio Corporation of America, 306 U.S. 86, 94; 40 USPQ 199, 202. The novelty of a mathematical formula is not a determining factor at all. Whether the algorithm was in fact known or unknown at the time of the claimed invention; it is one of the "basic tools of the scientific and technological work", and it is treated as though it were a familiar part of the prior art. See Parker v. Flook, 437 U.S. 584, 198 USPQ 193, 198 and Gotschalk v. Benson, 409 U.S. 67, 175 USPQ 674. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to use a "delaying" algorithm which has longer cycle times, i.e., performs fewer of the

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calculations over a given control period, with the crane control flow chart of drawing figure 3 of Hytönen '193, as such algorithms are considered as known prior art.

5. Applicant's amendment filed March 10, 2008, has overcome some the language problems with the claims, but they are still indefinite, for at least the examples given above. Applicant noted that as claim 5 was not previously rejected using prior art, it should be considered as allowable now or this Office action should not be made final. However the amendments to claim 5 did not overcome the all of the previous reasons for the rejection under 35 U.S.C. § 112, second paragraph. Removing the term "the" from the claim in line 2 and in line 4 removes some of the antecedent basis problems, but makes the claim more difficult to read. The claim, as a whole, fails to set forth an understandable method step. Because it begins with the term "wherein", the claim appears to be *further* defining a restricting step when no such restricting step is discussed in claim 1 (in fact, every dependent claim awkwardly begins with the term *wherein*). It is noted that the previous Office action stated that claim 5 was not understood and appeared to be incomplete. To avoid raising any questions regarding a premature final rejection, claim 5 has not been included above in the rejection based upon prior art. It remains rejected based only upon it not being understood. However this is not an indication of allowable subject matter; at such time that the claim is understood, it could be included in the prior art rejection. The amendment necessitated the new grounds, accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. An inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Brahan whose telephone number is (571) 272-6921. The examiner's supervisor, Mr. Peter Cuomo, can be reached at (571) 272-6856. The fax number for all patent applications is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions regarding access to the Private PAIR system, should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thomas J. Brahan/
Primary Examiner, Art Unit 3654